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MILITARY

SOVIET COMMENTS ON INDOCTRINATION OF JAPAN'S ARMED FORCES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 6, Jun 81 (signed to press 13 Jun 81) pp 15-19

[Article by Major V. Moskvina, Candidate of Historical Sciences: "Organization of Ideological Work in Japan's Armed Forces"]

[Text] In the global strategy of world imperialism Japan acts as a kind of Far Eastern pillar, a "special partner" of the United States in Asia. As was pointed out in the CPSU CC Accountability Report to the 26th Party Congress, "its foreign policy is increasingly dominated by negative factors such as playing up to the dangerous plans of Washington and Beijing and the tendency toward militarization." Contrary to the national interests of the Japanese people, the country's ruling circles are strengthening the course toward inflaming revanchist moods, a chauvinist spirit, and an anti-Soviet psychosis. Throughout the entire postwar period they have been avoiding a peaceful settlement of relations with the USSR and deliberately taking steps to worsen Soviet-Japanese relations. They have also been organizing hostile publicity against our country. On the basis of its military alliance with the Pentagon and developing, anti-Soviet based relations with Maoist China, the Japanese reaction in recent years has been attempting to create military-political blocs in the Far East, in which it expects to play a major role.

In accordance with the Anti-Communist ambitions of the ruling circles, the militarization of the country is steadily increasing. The expenditures budgeted for expanding Japan's armed forces have been growing each year at a higher rate than in any other capitalist country. Thus while in 1976 they amounted to 1,500 billion yen, over the subsequent five years they increased by 60 percent and in 1981 they reached 2,400 billion yen. All this is being done--as is openly declared by certain highly placed individuals in Japan's National Defense Administration--in order to turn the army into "a force that should present a threat to other countries."

Among the measures to expand Japan's military might an important place is assigned to elevating the "moral spirit" of the troops--which the militarists think should contribute to implementing an aggressive adventurist policy. This problem is regarded by the ruling circles and the high command as an urgent aspect of the current stage of armed forces build-up, and so they have set up and continue to improve a broad system of organizations for indoctrinating military personnel.

V. I. Lenin, in his analysis of the class nature of the mechanism of indoctrination in imperialist armies, noted that "the military leaders exert every effort to

render the 'gray cattle' [rank-and-file soldiers] incapable of any independent thinking and human feeling and imbue them with feelings of blind subordination and thoughtless and savage hostility toward 'external' and 'internal' enemies...." (Complete Collected Works [in Russian], Vol 16, p 114). Lenin's analysis applies just as well to the present-day system of ideological cretinization adopted in the Japanese armed forces and based on the principle of an irreconcilable anti-communism with a core of militant anti-Sovietism and nationalism grounded in the ideas of bourgeois patriotism, respect for the cult of the emperor, and strict obedience to the Samurai code of "bushido" ("the warrior's path"), etc. Revanchism implanted through the mediation of making unfounded territorial claims against the USSR, attempts to justify the necessity and legitimacy of the existence of strong armed forces in Japan--established contrary to the nation's constitution--fabrications concerning "the Soviet menace," and strengthening the military alliance with the United States and other reactionary countries--all this is directed toward forming a co-respondering ideological stereotype of a soldier called upon to defend the interests of monopoly capital.

An active role in the process of "upbringing" fanatics ready to blindly serve the Japanese militarists is played by the mass media, which publish large quantities of materials devoted to war propaganda. Japan is the world's third largest publisher of daily newspapers, with a total circulation of about 65 million copies. A foreign press estimate shows that a large part of editorials and feature articles in the leading bourgeois organs of the press is devoted to propagandizing anti-communism, nationalism, revanchism, and militarism. There are 2,500 book and periodical publishers in the country, a certain part of which specializes in militarist literature inculcating the spirit of violence and rapine. As picturesquely expressed by a Japanese military observer, "if all the weapons shown on the covers of periodicals and in the illustrations of books sold in a single bookstore alone were to fire in unison, the resulting salvo would be equal in firepower to that of a modern division."

The entire territory of Japan is encompassed by a network of radio and TV stations (more than 140) whose programs are saturated with militarist topics. According to foreign press notices, 25-40 hours of radio broadcasts each week alone deal with convincing the population of the extreme necessity of strengthening the armed forces to repulse the "Northern Menace." Propaganda of militarism and cult of force permeate many TV programs during the "prime time" between 7 and 9 p.m. Quite a few films shown on TV glorify war, cruelty, sadism, and rapine. Calculations by a Japanese public organization show that TV programs during three weeks alone in 1979 depicted some 2,000 murders.

The incessant boom in military themes is actively supported by the Japanese film industry. The progressive Japanese critic A. Iwasaki pointed out that the history of the Japanese cinema is largely a history of military cinema. As much as 70 percent of the films shown are intended to distort the history of World War II, to whitewash and justify the crimes of Japan's ruling circles during that period against other peoples, to eulogize the "heroism" and fanaticism of Japanese soldiers of the former Imperial army as well as of the present-day armed forces, and to propagandize militarism in its other aspects.

The "adjustment" of the ideological qualities of future recruits for the armed forces is handled by a number of departments and services of the Defense Force which, taken together, constitute an indoctrination apparatus. Its activities are

controlled by the chief of the Defense Administration, who is responsible for the moral-psychological attitudes of military personnel.

The current structure of the units directly responsible for the indoctrination of personnel consists of three sectors, according to the foreign press: the first includes the Personnel, Military Training, and Operations departments; the second, the Information Service; and the third, "public" (militarist and nationalist) organizations grouped around the armed forces. Each sector has its specific features, but they all are closely linked and subordinate their activities to the same goal--an all-encompassing ideological indoctrination of military personnel covering all aspects of its activities and life.

FIRST SECTOR: the Personnel and Combat Preparedness Department and the Operations Department--organizes the indoctrination of military personnel chiefly in the course of their regular training. The Personnel and Combat Preparedness Department develops textbooks, programs, and various propaganda materials, while the Operations Department ensures that the political orientation of military service, training, and schooling of the personnel be of an anti-communist, revanchist nature.

The responsibility for the organization and conduct of special exercises in so-called "moral upbringing" is directly imposed on the unit commanders. Exercises of this kind, held with enlisted and noncommissioned personnel, are a regular part of the curriculum and 2 hours weekly are set aside for them. The cycle of instruction is divided into a basic course ("kihon keiku," during the first year of training) and an advanced course ("kensei keiku," during the second year), which differ thematically. Thus while the basic course is intended to "shape the warrior's moral qualities" in the spirit of anti-communism and militarism, the advanced course is devoted to "a profound study of Japan's history"--in other words, the focus is on propaganda of nationalism and revanchism.

During the conduct of exercises in "moral upbringing," as the Japanese regulations stress, company commanders should be familiar with the personal qualities of every subordinate so as to effectively employ individualized indoctrination. To assist the commander, a group of the best-prepared noncommissioned officers within the company is set up to handle certain such exercises with company personnel.

The commanding officers require periodic reassessment of the results of individualized indoctrination of enlisted and noncommissioned personnel. The principal criterion for assessment is the serviceman's behavior while performing combat and service tasks. Nevertheless the course in "Moral Upbringing" also entails written tests.

Considering that the officer corps acts as the direct organizer and leader of the exercises in "moral upbringing," as well as of all troop indoctrination, special attention is paid to these problems in various officer training schools. According to the superintendent of the Fuji Combined Arms School, the "training process should be aimed at maximally contributing to strengthening the moral spirit of the armed forces as a whole. The young lower- and middle-ranking officers who, after graduating from the school, are about to serve as regular officers, should perfect their self-awareness so as to confidently handle the upbringing of their subordinates and transmit their knowledge to them."

The commissioned personnel orient all training of enlisted personnel toward the conduct of combat activities against armies of the countries of the Socialist

Community, chiefly the Soviet Union, the suppression of democratic actions by the nation's workers, and the implementation of aggressive actions against other countries. The methods of moral-psychological indoctrination employed are with increasing clarity orienting Japanese military personnel toward war with the USSR. Thus, as of 1978, the "foe" in exercises at various levels is units that have been specially organized and trained to act "in accordance with the tactics of Soviet troops." A squadron of "Soviet combat aircraft" is being set up within the air force, by analogy with the practice of the United States Air Force. According to a report by the newspaper ASAGUMA, maneuvers to repulse an "attack from the North" have been conducted since 1980 on the scale of all armed forces. These maneuvers involve large-scale transfers of troops and combat equipment from the south across the entire country under the propagandist slogan of a "growing Soviet menace."

During the leisure hours of military personnel indoctrination is handled by the Division of Cultural Services and Amenities, which is part of the Personnel and Combat Preparedness Department of the Defense Administration. The headquarters of combat arms and groups maintain their own sections of cultural services and amenities, and officers representing these sections are assigned to troop units and detachments. They ensure the complementation of barracks libraries with publications having an anti-communist and militarist content, organize the showing of tendentiously selected films and reading of lectures during off-duty hours, and conduct various athletic and other contests, etc. This service also finds employment for military personnel in civilian companies following their discharge from the army.

SECOND SECTOR: the Information Service—is charged with the indoctrination of both military personnel and the civilian population by using mass media. It is headed by the Information Section of the Secretariat of the National Defense Administration, which is staffed with 16 persons. The Secretariat includes information advisers and the headquarters of combat arms, and units include information sections.

The activities of the Information Service are based on a broad use of so-called non-regular personnel who, according to the newspaper ASAGUMO, at present number about 10,000 activists. Of these, 4,000 work directly with the troops to assist the commanding officers in imbuing the subordinates with the ideology of anti-communism and revanchism. The other 6,000 activists conduct similar propaganda in civilian organizations. To this end, the Information Service maintains direct ties with numerous militarist and nationalist organizations.

The most significant part of the activities of the Information Service is printed propaganda. As much as one-half of the funds budgeted for "Military Information" is spent on this purpose. This output includes brochures, leaflets, and posters praising Japan's modern army and the military alliance with the United States and calling for preparation for a war against the socialist countries. The Information Service publishes its own periodical KOHO ANTENNA. In addition, beginning in 1971, substantial funds have been spent each year on articles commissioned by the Defense Administration in such leading Japanese newspapers as ASAHI, MAINICHI, EMIURI, and others, as well as in the sports publications and even in periodicals for housewives.

The Information Service issues agitation-and-propaganda films advertising the activities of the Japanese armed forces, and commissions TV programs with tendentiously selected military topics. To this end about one-fifth of the funds budgeted for "Military Information" is expended. Each year substantial outlays are made on

equipping graphic display stands, organizing military exhibitions, festivals, etc. The Information Service handles the acquisition of propaganda equipment (film cameras, diasscopes, videodiscs, radio receivers, and other equipment). All material to be published is carefully monitored.

THIRD SECTOR: combines various militarist and nationalist organizations which are actively involved in the indoctrination of military personnel. Some of these organizations have a unique status: while they are not officially part of the armed forces and instead are chartered "public" organizations, their headquarters are nevertheless located in the building of the Defense Administration and their activities are directed by the Japanese high command, and they themselves are headed by former generals. Officially there is no military publishing house in Japan, but one of the military organizations, "The Friends of Asagumo" ("Asagumo-no u"), has, upon an order from the Defense Administration, organized the printing of propagandist military publications by the Asagumo-Shimbunsia Press whose main office is located in the building of the Information Section of the National Administration Secretariat. The organizational and other links between Asagumo-Shimbunsia and the armed forces are mediated by another public organization, the "Mutual Aid Association" ("Boiete Kesai Kumpei"), which directly collaborates with the Section for Cultural Services and Amenities. For example, the Defense Administration does not purchase the output of Asagumo-Shimbunsia--it is supplied to divisions, units, and detachments by the "Mutual Aid Association." This is how the propagandist ideas generated by the Information Section of the National Defense Secretariat are disseminated.

The Asagumo-Shimbunsia Press publishes large-format weeklies for various combat arms along with monthly journals for various categories of military personnel. There is GEKKAN-ASAGUMO for enlisted and noncommissioned personnel, and the journal of military theory KOKUBO for the officers. The degree to which personnel are provided with military weeklies and periodicals is quite high, according to estimates by foreign experts. For example, the weekly ASAGUMO has a circulation of more than 60,000, which means that there is a copy each for every four or five servicemen. The Association has also helped to organize the printing of periodical publications in troop parts and units.

Other militarist organizations, such as the "Society for Promotion of Defense," "The Friends of the Self-Defense Forces," the "All Japan League of Culture," and dozens of other youth and veteran organizations, exert their influence on all strata of society. Each has its own target audience--a specific category of military personnel or civilian population. Thus, the society of "Fathers and Brothers of Self-Defense Forces" practices an individualized approach to enlisted and non-commissioned personnel. The "Society of Friends of Self-Defense" is interested in reservists and relatives of military personnel. Various leagues and unions of veterans of the Imperial Army and Navy sustain the "warrior spirit" among ex-servicemen and their family members. As has been observed by the journal DAIMONDO, they all "strive to inculcate a feeling of military tension."

Intensified propaganda among the troops is conducted by the extreme nationalist organizations which now number about 550 in Japan and have a membership of more than 25,000. In most cases they are headed by persons who had been active members of the rightist movement already in the prewar period. The leaders of the ultra-nationalist organizations write articles for consumption by the military press and often

visit parts and units. Despite public protests against the ties between the nationalists and the military circles, officers not infrequently participate in rightist gatherings while the rightists themselves exercise a kind of barracks patronage. These relations are so strong and extensive that they provide the grounds for certain Japanese Neofascists for calling the present-day Japanese army "the reserve force of the storm troops of the right."

Having set up an extensive apparatus of indoctrination and applying various forms and methods of indoctrination, the Japanese high command aims at unconditional subordination of enlisted, noncommissioned, and commissioned personnel, and their implementation of any order directed at defending imperialist interests.

The anti-Soviet scheming of the imperialist forces and the intensified indoctrination of the soldiers of bourgeois armies in the spirit of anti-communism, revanchism, and militarism require of Soviet military personnel greater alertness and constant readiness to defend the Socialist Homeland.

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CSO: 1801/025

MILITARY

FIRST THREE P-3CS TO ARRIVE 25 DECEMBER

Tokyo AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 p 5

[Text]

Japan's first three Lockheed P-3C antisubmarine patrol aircraft will arrive at Atsugi Base Dec. 25 for deployment with the Maritime Self-Defense Force's (MSDF) 51st Air Squadron.

The aircraft are part of eight P-3Cs ordered in FY 1978. The MSDF took delivery of the first one last April, the second in June and the third in July through the U.S. Navy. But they have been used for training of 50 MSDF P-3C crewmen at the U.S. Navy's air training facilities in Jacksonville, Florida. The training was to be completed by the end of November. The three P-3Cs with MSDF crewmen aboard will leave Jacksonville around Dec. 17 for Japan via Hawaii and Guam.

The first three P-3Cs will undergo a one-year operational tests by the 51st SQ. About 270 men of the squadron were transferred to Atsugi from Shimofusa along with seven P-2J and other aircraft late in October. About 130 remaining men will move to Atsugi together with four HSS-2Bs by March 1982. Other MSDF units for P-3C introduction, including a planning unit, have already been organized.

The remaining five of the eight P-3Cs ordered in FY 1978 are now being manufactured by Kawasaki Industries Ltd. under Lockheed license. They will be delivered between May 1982 and March 1983. The MSDF plans to organize the first P-3C squadron with the eight aircraft by the end of March 1983.

The MSDF has been authorized to procure a total of 45 P-3Cs in the immediate future. Following the eight aircraft ordered in FY 1978, 10 aircraft were funded in FY 1980. The MSDF intends to place orders for the remaining 27 planes in FY 1982 and 1984.

MILITARY

TWO ASDF REPRESENTATIVES VISIT U.S. FOR E-2C INTRODUCTION

Tokyo JPE AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 pp 5-6

[Text]

The Air Self-Defense Force (ASDF) sent two officials, including Col. Norimoto Kajimada, head of the Logistics Planning Division, to the United States on Nov. 16 for consultation with U.S. Navy officials on Japan's introduction of the Grumman E-2C airborne early warning aircraft.

The U.S. Navy officials were to brief the Japanese delegates on preparations for delivery of eight E-2Cs which the ASDF ordered in FY 1979 and 1981. After consultations in New York lasting until Nov. 20, the ASDF officials were to visit the U.S. Navy Aviation Supply Office to discuss logistic support for the E-2C. They were also to call at U.S. Navy overhaul facilities to collect relevant data.

The ASDF will also send four officials to the United States in February 1982 for full-scale technical tests of the aircraft. ASDF has dispatched officials for such tests since FY 1979. At present, two officials are in the U.S. for ground tests lasting until March 1982. Flight tests using the first and second E-2Cs for Japan will be conducted between April and August 1982.

The first two E-2Cs will arrive in Japan in January 1983 after the technical tests, and will undergo operational tests by the Air Proving Wing. The operational tests will end in September or October when the third and fourth E-2Cs will be delivered. The four aircraft will form a special squadron for further tests.

CSO: 4120/96

MILITARY

JDA TO ORDER MINE-DROPPING SYSTEM FROM FHI

Tokyo JPE AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 pp 6-7

[Text]

The Defense Agency will soon award a ¥190 million contract to Fuji Heavy Industries Ltd. (FHI) for fabrication of a mine-dropping system and modification of a HU-1H utility helicopter, and another ¥20 million contract to Ishikawa Seisakusho Ltd. for fabrication of mine-containing cylinders and forged mines. The two contracts are funded by the FY 1981 budget.

The mine-dropping system will consist of two mine vessels for both sides of a helicopter, supporting equipment, and a control instrument built in the aircraft. The HU-1H helicopter will be modified to accommodate this system. The TR&DI, undertaking the mine development program for the GSDF, has sought additional several increments of ten million yen in its FY 1982 budget for the modification and technical tests.

The TR&DI will also launch the second phase of the mine development program in FY 1982 in cooperation with Ishikawa Seisakusho. The first phase was completed in FY 1980. All phases of the program will end in FY 1984 after technical and operational tests. At that time, the GSDF will decide whether to procure the new mines and mine-dropping systems. There is a possibility of the GSDF procuring about 60 systems after FY 1985 mainly for HU-1H helicopters deployed in northern Japan, according to informed sources.

CSO: 4120/96

MILITARY

MELCO HOPES FOR LICENSE PRODUCTION OF CLGP

Tokyo JPE AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 p 7

[Text]

Mitsubishi Electric Corp. (MELCO) hopes that it would be awarded a contract by the Defense Agency to produce cannon launched guided projectiles (CLGP) for the GSDF under license by Martin Marietta in future. It has already confirmed the U.S. firm's readiness to permit such license production.

The GSDF has ordered CLGPs and annexed equipment for evaluation from the United States with ¥900 million earmarked in the FY 1981 budget. The evaluation is expected to begin in FY 1984, using the GSDF 155mm howitzer.

On the basis of the evaluation, the GSDF will decide whether to deploy the CLGP to promote its ground warfare capabilities.

MELCO, which has so far gone ahead with research on guided projectiles in cooperation with the TR&DI, and development and production of various missiles, wants to obtain a CLGP license production contract if the CLGP is adopted by the GSDF.

CSO: 4120/96

SCIENCE AND TECHNOLOGY

DEFENSE INDUSTRY CONTRACTORS, PURCHASES OUTLINED

Tokyo KABUSHIKI NIPPON in Japanese 15 Oct 81 pp 94-99

[Text] The Japan Defense Agency decided earlier on the JFY1982 operation plan as well as a summary of the estimated budget request, and according to it, the estimated budget request amount is 2.5801 trillion yen, a 7.5 percent increase in comparison to the previous year. The Defense Agency Headquarters is 2.2849 trillion yen, also a 7.5 percent increase.

In treasury authorized contracts (contract amount), aircraft purchases substantially increased to 776.1 billion yen, an increase rate 7.2 times the previous year. Likewise, compared to the request amount for purchases of arms and aircraft and the construction of naval vessels, the purchase of munitions is showing substantial growth at 130 billion yen, an increase rate of 33.7 percent.

This amount is equivalent to the 138.7 billion yen for weapons purchases; it can be said to indicate attempts will be made to improve the weakness in the quality of resistance pointed out by the U.S. military and improve the capacity for continued fighting.

Then, purchases of materiel in accordance with the defense budget are made from qualified enterprises registered with the Defense Agency; their number totals 2,199 companies (JFY1981).

Each year the Defense Agency announces the 20 enterprises out of this total with the highest contract amounts; concerning enterprises below these 20, it makes no public announcement even though it summarizes 100 enterprises.

Looking at the enterprises ranked from 1 to 52 in sales to the Defense Agency in 1980 as a reference, 67.3 percent of them are members of the Japan Weapons Industry Association (attached table).

Moreover, concerning the companies related to disclosed equipment among the members of that association, a classification into 11 groups of the primary items registered with the Defense Agency is listed in a table (Table of Major 55 Enterprises Participating in the Defense Industry). In short, this may be called a list of all the major firms having something to do with the defense industry.

I would now like to compare the amount of money in a breakdown of treasury authorized contracts and main items provided.

Ishikawajima-Harima's Strong Point is Aircraft Engines

Almost all of the enterprises are related to several groups, and I have added comments on their important points. (Details can be found in the attached table of 55 Enterprises Participating in the Defense Industry).

Asahi Chemical Industry Company, Ltd. Only Asahi Chemical Industry Company, Ltd., Nippon Oils and Fats Co., Ltd., and Daicel, Ltd. manufacture missile propellants. Asahi is in charge of rocket motors for the Hawk missile and Sparrow missile. (JFY 1980 Defense Agency contract amount was 2.5 billion yen. Hereafter, I have included the yen amount within parentheses.)

Asahi Seiki Company, Ltd. Its main product is small caliber ammunition. (2.3 billion yen)

Ikegami Communications Machinery Company, Ltd. It is in charge of sonar data recording equipment for the P-3C.

Ishikawajima-Harima Heavy Industries Company, Ltd. It is the top maker of aircraft engines and is in charge of the manufacture of engines for the F-15, P-3C and others. (50 billion yen) In addition, it builds self-defense ships. (115 billion yen)

Ishikawa Seisakusho, Ltd. It manufactures mechanical mines, anti-submarine depth charges and land mines.

Ok Electric Industry Company, Ltd. It is in charge of the BT recorder for the P-3C, underwater noise level indicator and teletype. (7.8 billion yen) It also participates in the Badge-X. Its subsidiary company, Ok Electric Wire Company, Ltd., is handling communications cable, communications axial cable and the like.

Kawasaki Heavy Industries Company, Ltd. Related

Kawasaki Heavy Industries Company, Ltd. Before the war, it built such famous ships as the battleships Haruna and Hyuga, and aircraft carriers Kaga, Zuikaku and Taiho. It has a reputation for technological strength. It leads in gas turbines for ships. Likewise, at present only Kawasaki and Mitsubishi Heavy Industries Company, Ltd. are able to build submarines. (14.5 billion yen) After the war, it has domestically developed airplanes, missiles, the C-1 transport plane and the MAT. (51.5 billion yen)

Nippon Hikoki Company, Ltd. It is the manufacturer of the Kawasaki aircraft and is in charge of the P-3C's engine cover and the F-15J's pylon launcher. The FRP is also registered with the Defense Agency.

Table. 1979 Ranking by Sales Amount to Defense Agency

Rank	Name of Company	Japan Weapons Industry Association Membership
1.	Mitsubishi Heavy Industries, Ltd.	X
2.	Kawasaki Heavy Industries Co., Ltd.	X
3.	Mitsubishi Electric Industrial Co., Ltd.	X
4.	Ishikawajima-Harima Heavy Industries Co., Ltd.	X
5.	Nippon Electric Company, Ltd.	X
6.	Toshiba Corporation	X
7.	Fuji Heavy Industries, Ltd.	X
8.	Shin Meiwa Industry Co., Ltd.	
9.	The Japan Steel Works, Ltd.	X
10.	Mitachi, Ltd.	X
11.	Nippon Koku Denshi Co., Ltd.	X
12.	Sumitomo Precision Machinery Industry Co., Ltd.	X
13.	Japan Radio Company, Ltd.	X
14.	Tokyo Precision Instrument Co., Ltd.	X
15.	Teijin Seiki Co., Ltd.	
16.	Shimadzu Seisakusho, Ltd.	X
17.	Shinko Electric Co., Ltd.	
18.	Nippon Hikoki Co., Ltd.	
19.	Daikin Kogyo Co, Ltd.	X
20.	Nissan Motor Co., Ltd.	X
21.	The Yokohama Rubber Co., Ltd.	
22.	Nippon Oil Company, Ltd.	
23.	Maruzen Oil Company, Ltd.	
24.	Kobe Steel, Ltd.	X
25.	Nittoku Metal Industry Co., Ltd.	X
26.	Hitachi Shipbuilding and Engineering Co., Ltd.	X
27.	Daicel, Ltd.	X
28.	Toa Nenryo Kogyo, K.K.	
29.	Kayaba Industry Co., Ltd.	
30.	Hokushin Electric Works, Ltd.	X
31.	Yuasa Battery Co., Ltd.	
32.	Sasebo Heavy Industries Co., Ltd.	X
33.	Kokusai Electric Co., Ltd.	X
34.	Nippon Oils and Fats Co., Ltd.	X
35.	Minebea Co., Ltd.	
36.	The Furukawa Electric Co., Ltd.	X
37.	Sumitomo Electric Industries, Ltd.	X
38.	Japan Storage Battery Co., Ltd.	
39.	Isuzu Motors Limited	X
40.	Ishikawa Seisakusho, Ltd.	X
41.	Asahi Chemical Industry Co., Ltd.	X
42.	Nippon Kokan, K.K.	X
43.	Asahi Seiki Co., Ltd.	X
44.	Ricoh Watch Co., Ltd.	X

45.	General Sekiyu, K.K.	
46.	Showa Oil Co., Ltd.	
47.	Tokyu Car Manufacturing Co., Ltd.	
48.	Chuo Kogyo Co., Ltd.	X
49.	Howa Machinery, Ltd.	X
50.	Sakura Rubber Co., Ltd.	
51.	Fuji Electric Co., Ltd.	X
52.	The Hakodate Dock Co., Ltd.	

April 1979-March 1980 Accounting Period

Kyosan Electric Manufacturing Company, Ltd. It handles the manufacture of land mine parts and training equipment.

Kobe Steel, Ltd. It manufactures torpedo tubes and cast steel/forged products.

Komatsu, Ltd. It is the main contractor for wheeled armored carriers, the M-75 130 millimeter self-propelled successive firing rocket launcher and large caliber shells. In addition, it delivers vehicles for the engineer corps, such as bulldozers. Komatsu Zenoa Co, Ltd., its subsidiary company, handles aircraft engines. (600 million yen)

Sasebo Heavy Industries Co., Ltd. Its main contracts are the construction and repair of self-defense ships.

Shimadzu Seisakusho, Ltd. In aircraft parts, it has charge of the F-15J's head-up display, the P-3C's magnetic sensing processor and magnetic sensing recorder. (15.1 billion yen) It also handles various kinds of analytical equipment, medical instruments and measuring instruments, delivering the first domestic centrifugal force producing system. (400 million yen)

Sumitomo Related

Sumitomo Shipbuilding and Machinery Co., Ltd. Besides construction and repair of self-defense ships, it handles arms, machinery and vehicles. (13.4 billion yen)

Sumitomo Electric Industries, Ltd. It handles rocket chambers and aircraft fuel tanks. (3 billion yen)

Nittoku Metal Industry Co., Ltd. It manufactures M-74 vehicle-mounted machine guns and fighter plane 20 millimeter machine guns. (2.1 billion yen)

Daikin Kogyo Co., Ltd. It is the main contractor of medium caliber shells, and is the top contractor of missile warheads. It has a monopoly on air conditioning and air cooling for self-defense submarines. In addition, it manufactures oil pressure parts for aircraft. It ranks 19th. (6.8 billion yen)

防衛産業にたずさわる主要企業(55社)一覧 (1) 4 5 6 7 8 9 10 11 12 14 15

2)	社名	主 要 取 扱 品	55年度受注額(億円)	電機・電子機器	ミサイル関連	艦艇	航空機・航空機部品	対潜探知機	対空・防空関連	兵器・兵器部品	通信・情報	輸送・輸送機	大銃	銃
16)	安立電機	通信機器・無線機		○										
17)	富士電機	誘導兵器およびレーダー用電源装置		○	○									
18)	富士通	ホークミサイルローダー・ロケットランチャー		○	○									
19)	富士通	レーダー・赤外線応用装置		○	○									
20)	日立製作	電圧高度計・対空データリンク通信機	14	○	○									
21)	日立造船	機雷・爆雷・ジュリー発射機	12	○	○									○
22)	北原電機	ジャイロ水平儀・ポジション指示器		○	○									
23)	地上通信	情報機器・電音機器		○	○									
24)	神戸製鋼	水中発射管・非磁性圧入気筒												○
25)	国産電機	空中観望機・ビーコン		○	○									
26)	松下電産	電池・産業用機器		○	○									
27)	松下通信	無線機・計測機		○	○									
28)	明星電機	地雷探知器・気象観測装置		○	○									
29)	三菱電機	各種レーダー・ECM装置・ミサイル	4	○	○									
30)	三菱重工	航空機製作・水中兵器各種魚雷	1	○	○									○
31)	日本電気	コンピュータ・光通信装置	6	○	○									
32)	日本電気	ディーゼル発火装置・シクロ式制御装置		○	○									
33)	日本光子	望遠鏡・各種光学機器		○	○									○
34)	航空電子	自動操縦装置・ジャイロ		○	○									
35)	日本無線	ASW用機器・シミュレータ装置		○	○									
36)	日本製鋼	3吋・5吋連射砲・ロケット発射機	9	○	○									○
37)	神電	音波応用機器・情報処理機器	16	○	○									
38)	リコー	複写機・電子機器		○	○									
39)	島津製作	各種コンピュータ応用システム	20	○	○									
40)	タムラ製作	航空機用通信装置		○	○									
41)	東京光子	74式砲車用直視用車載鏡		○	○									○
42)	東京計器	ジャイロ・航空用衝突予防装置	13	○	○									
43)	東京芝	誘導兵器・コンピュータ	5	○	○									
44)	東洋通信機	機方機部装置・航法装置		○	○									
45)	ゼネラル	通信装置・各種電気信号		○	○									
46)	旭化成	銃砲弾・ロケット推進薬		○	○									○
47)	ダイキル	砲弾・爆雷・航空機部品・ミサイル部品	19	○	○									○
48)	ダイセル	ロケットモーター・発射機		○	○									○
49)	藤倉電線	機海電線・魚雷用電線		○	○									
50)	石川島	航空機用エンジン	2	○	○									
51)	川崎重工	航空機製作・潜水艦	3	○	○									
52)	日本飛行機	機体部品および装置		○	○									○
53)	日本油研	ロケット・ミサイル用推進薬・銃砲用発射薬		○	○									○
54)	日産自動車	ロケットモーター・ロケット弾		○	○									
55)	リコー時計	ロケット・ミサイル等の信管・安全装置		○	○									
56)	三井造船	ディーゼル主機・陸軍艦		○	○									
57)	日本鋼管	中型・小型掃海艇		○	○									○
58)	住友重工業	艦艇建造・修理		○	○									
59)	住友重機		10	○	○									
60)	小松製作	砲弾・武器車輛・施設車輛	11	○	○									○
61)	日特金	機関砲・機関銃		○	○									
62)	古河電工	各種ケーブル		○	○									
63)	東三製作	各種機雷用内機		○	○									
64)	住友電工	魚雷用雷型FRP・ロケットチャンパー		○	○									
65)	東北金属	電子材料		○	○									
66)	新中央工業	機雷・魚雷用部品		○	○									○
67)	石川製作	機雷・対潜機雷・地雷		○	○									○
68)	豊和工業	小銃・迫撃砲・手榴弾		○	○									○
69)	東京電子	全航空宇宙関係電子類		○	○									○
70)	旭硝子	7.62mm・60式11.4mm各種銃弾		○	○									○

71) (注) 主要取扱品は、防衛調達要覧によった。鉄鋼メーカー、車両メーカーなどの一部の会社は除外した。
新中央工業、東京電子は10月1日と合併。

Key:

1. Table of Major (55) Enterprises Participating in Defense Industry

2. Company Name

3. Main Products

4. Ranking by 1980 Contract Amount (Rank 1 through 20)

5. electric/electronic machinery

6. missile related products

7. naval vessels

8. tanks and rail cars

9. anti-submarine detector

10. minesweeping and mine-related products

11. torpedo-related

12. firearms shells

13. fuses

14. explosives

15. gas

16. Anritsu Electric Co., Ltd.: communications systems and radio equipment

17. Fuji Electric Co., Ltd.: guided weapons and radar power system

18. Fuji Heavy Industries, Ltd.: Hawk missile loader and rocket launcher

19. Fujitsu, Ltd.: radar and infrared application system

20. Hitachi, Ltd.: radio altimeter, ground-to-air data link transmitter

21. Hitachi Shipbuilding and Engineering Co., Ltd.: land mines, anti-submarine depth charges and Juhl sound bombs

22. Hokushin Electric Works Co., Ltd.: horizontal gyroscope and position indicator

23. Ikegami Communications Co., Ltd.: information apparatus and power apparatus

24. Kobe Steel, Ltd.: submarine torpedo tube, anti-magnetic pressurized air reservoir

25. Kokusai Electric Co., Ltd.: antenna adjusting equipment and beacons

26. Matsushita Electric Industrial Co., Ltd.: batteries and industrial machinery

27. Matsushita Communication Industrial Co., Ltd.: radio equipment and measuring instruments

28. Myojo Electric Co., Ltd.: land mine detector, weather surveying equipment

29. Mitsubishi Electric Corporation: various radar, ECM system and missiles

30. Mitsubishi Heavy Industries, Ltd.: aircraft manufacture, underwater weapons and various torpedoes

31. Nippon Electric Company, Ltd.: computers, optical communication system

32. Nippon Electric Industry Co., Ltd.: diesel generators and synchro control devices

33. Nippon Kogaku, K.K.: periscopes and optical sights

34. Nippon Koku Denshi Co., Ltd.: automatic pilot, gyros

35. Japan Radio Company, Ltd.: ASW equipment, simulator system

36. The Japan Steel Works, Ltd.: 3" and 5" mortars, rocket launchers

37. Oki Electric Industry Co., Ltd.: acoustics application equipment, information processing equipment

38. Ricoh Company, Ltd.: duplicators, electronic equipment
39. Shimadzu Seisakusho, Ltd.: computer applications systems
40. Tamura Seisakusho, Ltd.: communication transformers for aircraft
41. Tokyo Optical Industry Co., Ltd.: direct sight viewer for M-74 tank
42. Tokyo Precision Instrument Co., Ltd.: gyro and air collision prevention system
43. Toshiba Corporation: guided weapons, computers
44. Toyo Tsushinki Co., Ltd.: ally identification feature, navigation system
45. The General Corporation: communication equipment, various kinds of fuses
46. Asahi Chemical Industry Co., Ltd.: firearms shells, rocket propellants
47. Daikin Kogyo Co., Ltd.: shells, fuses, aircraft parts and missile parts
48. Daicel, Ltd.: rocket motors and ammunition
49. The Fujikura Cable Works, Ltd.: minesweeping cable, electric cable for torpedoes
50. Ishikawajima-Harima Heavy Industries Co., Ltd.: aircraft engines
51. Kawasaki Heavy Industries Co., Ltd.: aircraft manufacture, submarines
52. Nippon Hikoki Co., Ltd.: fuselage parts and equipment
53. Nippon Oils and Fats Co., Ltd.: rocket and missile propellant and ammunition
54. Nissan Motor Co., Ltd.: rocket mortars and rocket bombs
55. Ricoh Watch Co., Ltd.: fuse and safety system for rockets and missiles
56. Mitsui Shipbuilding and Engineering Co., Ltd.: diesel machinery and escort ships
57. Nippon Kokan, K.K.: medium and small minesweepers
58. Sasebo Heavy Industries Co., Ltd.: construction and repair of naval ships
59. Sumitomo Shipbuilding and Machinery Co., Ltd.: construction and repair of naval vessels
60. Komatsu Ltd.: shells, weapons carriers, engineer corps vehicles
61. Nittoku Metal Industry Co., Ltd.: machine gun shells and machine guns
62. The Furukawa Electric Co., Ltd.: various cables
63. Kyosan Electric Manufacturing Co., Ltd.: various internal mechanisms for mines
64. Sumitomo Electric Industry, Ltd.: torpedo drum-type FRP, rocket chambers
65. Tohoku Metal Industries, Ltd.: electronic materials
66. Shinchuo Industries, Ltd.: tanks, torpedo parts
67. Ishikawa Seisakusho, Ltd.: mechanical mines, anti-submarine depth charges and land mines.
68. Howa Machinery, Ltd.: rifles, trench mortars, hand grenades
69. Tokyo Neji Co., Ltd.: bolts and screws for entire aerospace programs
70. Asahi Seiki Co., Ltd.: 7.62 mm and M-66 11.4 mm bullets
71. N.B. Major products handles were from the defense procurement manual. Some companies have been excluded, such as steel manufacturers and vehicle manufacturers. Shinchuo Industries, Ltd. and Tokyo Neji Co., Ltd. merged into Minebea Co., Ltd. on 1 October

As for other enterprises affiliated with Sumitomo, Sumitomo Metal Industries, Ltd. produces high pressure air reservoirs. (400 million yen) The Sumitomo Rubber Co., Ltd. handles tires for airplanes and the like. Sumitomo Bakelite Co., Ltd. produces steel helmets. Sumitomo Precision Machinery Industry, Ltd. handles propellers for the P-3C and aircraft parts.

The General Corporation. It is the only company handling electric fuses. Besides fuses, it handles communications equipment.

Tamura Seisakusho Co., Ltd. It manufactures communications transformers for aircraft. (700 million yen)

Daicel Chemical Company, Ltd. It provides emergency evacuation apparatus for aircraft crewmembers, rocket motors and ammunition. (3 billion yen)

Toshiba Aims At Missile Guidance Parts

Toshiba Related

Toshiba Corporation. It ranks fifth. (32.9 billion yen) It is in charge of the inertia navigation system, search radar for the P-3C and a lead computing gyro and inertia navigation system for the F-15J. It handles the maintenance of the E-2C's electronic machinery. Likewise, it shares missile guidance system parts with Mitsubishi Electric Corporation and Nippon Electric Company, Ltd. It is also the major contractor for the short-range SAM and the carried SAM.

Tokyo Optical Industry, Ltd. It is in charge of the M-74 tank and M-75 155 millimeter self-propelled shell and direct sight viewer.

Tokyo Precision Instrument Company, Ltd. It has a capital and technical tie-up with America's Sperry Rand Corporation. It ranks 13th. (9.4 billion yen) It is in charge of the radar alarm system for the F-15J.

Nippon Electric Company, Ltd Related

Nippon Electric Company, Ltd. It is the major company for computers and optic communication system. It is in charge of the TACAN navigation system for the P-3C, the DAIFA system, the F-15J's TACAN system and missile guidance system parts. It ranks 6th. (22.3 billion yen)

Anritsu Electric Company, Ltd. It handles communications equipment and radio equipment. (900 million yen)

Toyo Tsushinki Company, Ltd. It is in charge of the interrogator-responder system for the P-3C and F-15J. (2.7 billion yen)

Tohoku Metal Industries, Ltd. It delivers electronic materials.

Nippon Electric Industry Company, Ltd. It handles the power failure constant frequency power supply system and synchro-control system. (100 million yen)

Nippon Koku Denshi Company, Ltd. It is in charge of the radio frequency altimeter for the P-3C. It shares the missile gyro with Tokyo Precision Instrument Co., Ltd. and Mitsubishi Precision Instrument Co., Ltd.

Many of the companies affiliated with Nippon Electric Company are related to the defense industry, but as for those which are not part of the Japan Weapons Industry Association, they are Meidensha Electric Manufacturing Company, Ltd., Nitsuko, Ltd., Denki Kogyo Company, Ltd., Tamura Denki Company Ltd., Ando Denki Company, Ltd. and Okura Denki Company, Ltd.

Japan Radio Company, Ltd. It handles anti-submarine equipment, such as the sonar buoy indicator, various kinds of radio communication equipment and radar systems.

The Japan Steel Works, Ltd. It ranks 9th. (12.3 billion yen) It is the main contractor for 155 millimeter shell guns and gun turrets and M-74 105 millimeter tank guns.

Nippon Oils and Fats Company, Ltd. It is in charge of rocket and missile propellants. Likewise, it develops ammunition which does not leave the cartridge in the tank gun. (2.5 billion yen) In addition, it is a major handler of ship hull paint. (40 million yen) Its subsidiary company, Showa Kinzoku Company, Ltd., is a major company for blank cartridges.

Nissan Motor Company, Ltd. In addition to various automobiles and special vehicles (200 million yen), it handles rocket bombs.

Nippon Kokan, K.K. It builds special service vessels, such as icebreakers. It shares minesweepers with Hitachi Shipbuilding and Engineering Company, Ltd.

Hitachi Shipbuilding and Engineering Company, Ltd. It ranks 12th. (11.4 billion yen) It handles the construction and repair of self-defense ships (minesweepers are made only by Hitachi and Nippon Kokan), undersea weapons (mines, depth charges and minesweeping tools).

Hitachi Related

Hitachi, Ltd. It ranks 14th. (9 billion yen) It is in charge of the data terminal system for the P-3C and the data ring system for the F-15J.

Kokusai Electric Company, Ltd. It is in charge of the HF radio equipment for the P-3C. (3.5 billion yen)

As for other enterprises related to Hitachi, there are Nihon Parkerizing Company, Ltd., which makes metal anticorrosives (50 million yen); Nakayo Tsushinki Company, Ltd., which handles push button phones; and Yagi Antenna Company, Ltd., which handles various antennas.

Fuji Electric Company, Ltd. It handles submarine electric propulsion systems and power systems for guided weapons and the like. (6 billion yen)

Fujitsu, Ltd. It manufactures computers, infrared ray applications system. (8 billion yen) It has decided to compete with Nippon Electric Company and Hitachi for the Badge-X orders (contract).

The Fujikura Cable Works, Ltd. It handles singlehandedly minesweeping cables. In addition, it manufactures piano wire for wire guidance of the Kawasaki Heavy Industries Company developed MAT. (300 million yen) Its subsidiary company, Fujikura Rubber Company, Ltd., handles life rafts and the like. (500 million yen)

The Furukawa Electric Company, Ltd. It handles various cables. Its subsidiary company, Furukawa Battery Company, Ltd., handles lead and alkaline batteries.

Fuji Heavy Industries, Ltd. It is in charge of the wings for the P-3C. It is also the main contractor of the anti-tank helicopter AH-1S. It participated in planning the MTX (16.8 billion yen)

Hokushin Electric Works, Ltd. In addition to aircraft parts for the P-3C and F-15J (3 billion yen), it manufactures gyrocompasses and the like for ships. Its subsidiary company, Nippon Denshi Kiki Company, Ltd., handles missile fuses.

Howa Machinery, Ltd. It is the main contractor for the M-64 rifle and its 81 millimeter shells. Its rifles are extremely sophisticated and it is said there are many purchase orders from middle advanced countries and developing countries.

Matsushita Related

Matsushita Electric Industrial Company, Ltd. It handles batteries and industrial machinery. (1.4 billion yen)

Matsushita Communication Industrial Company, Ltd. It produces radios and measuring instruments.

Mitsubishi Heavy Industries, Prime Contractor for Ground, Maritime and Air Self-Defense Forces.

Mitsubishi Heavy Industries Related

Mitsubishi Heavy Industries, Ltd. It is the prime contractor of almost all the main weapons for the Ground, Maritime and Air Self-Defense Forces. It ranks first. (234.5 billion yen) Furthermore, it maintains its first place position every year.

Mitsubishi Electric Corporation. It manufactures electronic equipment on board the P-3C and F-15J. (For details, refer to the 15 August and 5 September issues of this publication) In addition, it is in charge of various missile guidance parts.

Nippon Kogaku, K.K. Since prior to the war, it has had an established reputation in submarine periscopes and optical sights for ships.

As for other enterprises related to Mitsubishi Heavy Industries, they are Mitsubishi Kakoki Kaisha, Ltd., handling oil cleansing equipment; Mitsubishi Metal Mining Company, Ltd., manufacturing tungsten cores for anti-tank shells which is its sinter alloy technology; Mitsubishi Steel Manufacturing Company, Ltd., in charge of bombproof steel; Mitsubishi Rayon Company, Ltd., manufacturing carbon fibers; Mitsubishi Motor Sales Company, Ltd., handling special vehicles; and Mitsubishi Precision Instruments Company, Ltd., handling the Doppler navigation system for the P-3C.

Minebea Company, Ltd. (The following two companies merged into Minebea on 1 October.)

Shinchuo Kogyo, Ltd. It is the prime contractor for 9 millimeter 9-round pistols. It is in charge of the manufacture and repair of aircraft mounted weapons for the P-3C and F-15J.

Tokyo Neji Seisakusho, Ltd. It handles various bolts and screws for aircraft and missiles.

Mitsui Shipbuilding and Engineering Company, Ltd. Its main product is small sized self-defense ships. (1 billion yen) It seems the construction of missile carrying ships which were put into the 1982 summary request will be decided in favor of either Mitsui or Hitachi Shipbuilding. (Estimated budget of 1 billion yen.)

Myco Denki Company, Ltd. It handles mine detectors.

Ricoh Company, Ltd. It handles photocopiers and electronic machinery.

Ricoh Watch Company, Ltd. It manufactures fuses and safety systems. (2.3 billion yen)

Other Enterprises

As for aircraft related companies, Showa Hikoki Company, Ltd. makes parts for airplane fuselages (500 million yen); Shin Meiwa Industry Company, Ltd. is in charge of the tail and nose assemblies for the P-3C and F-15J's drop tank (it ranks 17th with 7.3 billion yen); NGK Spark Plug Company, Ltd. is in charge of airplane engine plugs (40 million yen); Teijin Seiki Company, Ltd. is in charge of aircraft oil pressure parts (Its technology has been certified as superior); Sakura Rubber Company, Ltd. handles various aircraft rubber parts; Osaka Sanso Company, Ltd., subsidiary company of Nippon Oil Seal Industry Company, Ltd., handles various aircraft seals (500 million yen).

Kanto Koku Keiki Company, Ltd., subsidiary company of Nozaki and Company, Ltd., handles the manufacture and repair of aircraft instruments; Nippon Seiko, K.K., the Toyo Bearing Manufacturing Company, Ltd., Fujikoshi, Ltd. and Koyo Seiko Company, Ltd. manufacture bearings for use in aircraft; Nippon Baruka Kogyo Company, Ltd. handles O-rings and packings (100 million yen); Toyo Denki Seizo, K.K. manufactures constant frequency power supply systems and automated drafting instruments (300 million yen).

INDUSTRY ASKS FOR INCREASED SUBSIDIES FOR RJ500

Tokyo JPE AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 pp 2-3

[Text]

Taiji Ubukata, President of the Japanese Aero-Engines Corp. and of Ishikawajima-Harima Heavy Industries Co., briefed the ruling Liberal-Democratic Party's concerned legislators on the Rolls-Royce/Japanese RJ500 (XJB) aero-engine development program on Nov. 10 to seek their support for increased subsidies for the program in FY 1982 starting next April.

He explained that Rolls-Royce Ltd. and the Japanese aero-engine industry kicked off the program in 1980 under a joint venture contract signed in December 1979 to complete the high-performance, low-noise, low-pollution and fuel-efficient RJ500 with a high bypass ratio by FY 1987 for 150-seat commercial transport aircraft.

In the initial stage, he said, the RJ500 had been planned to have a thrust of nine tons to power the Boeing 737-300, Fokker F-29 and other 130-seat aircraft. But its thrust must be increased to 10 to 11 tons to power the planned 150-seat aircraft, such as the Airbus Industrie A320, the McDonnell Douglas/Fokker MDF-100 and the Boeing 7-7, for which brisk demand is expected in future, Ubukata said. Rolls-Royce & Japanese Aero-Engines Ltd. (RRJAEL), the joint venture for the program, is now developing the larger-thrust version with fuel efficiency stepped up further, he added.

RRJAEL is fabricating two demonstrator engines in the current fiscal year and will manufacture more engines and test them in FY 1982.

In order to go ahead with development work on a tight schedule, Ubukata stressed, the Japanese industry would need more government money in FY 1982 than in FY 1980 and 1981.

SCIENCE AND TECHNOLOGY

KHI PROPOSES IMPROVED V-107 FOR ASDF H-X

Tokyo JPE AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 pp 3-4

[Text]

Kawasaki Heavy Industries Ltd. (KHI) has proposed the V-107X, an improved version of the V-107 helicopter, for the Air Self-Defense Force's (ASDF) new H-X search/rescue helicopter replacing the current V-107. The ASDF plans to order seven H-X helicopters in FY 1984 and 27 more later.

The V-107X will be powered by the 1,725-horsepower T700-401 engine instead of the current 1,500-horsepower CT-58, according to KHI, which has already fabricated a V-107X mockup.

The fuel-efficient engine and a lighter composite rotor blade will reduce fuel consumption by 256 pounds per hour from the current 1,600 pounds to 1,344 pounds.

The new engine will also increase long-range search/rescue capabilities together with the high-performance rotor blade, independent navigation system, search radar, night-sighting system, auto pilot system and improved rescue device.

The maximum speed will rise by 12 knots from the current 137 knots to 149 knots with a bulge-shape fuel tank, high-performance rotor and retractable landing gear. The flight range will increase by 170 nautical miles from the current 570 nautical miles to 740 nautical miles, and the payload by 300 pounds from the current 9,200 pounds to 9,500 pounds.

Safety and survival capability will be improved by the composite rotor blade, night flight display and single-turbine flight capability. An auxiliary power unit will be newly installed on the V-107X so that it will be able to take off and land more flexibly.

KHI plans to use airframes of the current V-107s for the modified versions to exclude the necessity of new familiarization training flights.

SCIENCE AND TECHNOLOGY

MITI RESEARCHING NEW PROPULSION SYSTEM

Tokyo JPE AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 pp 4-5

[Text]

The Agency of Industrial Science and Technology, Ministry of International Trade and Industry (MITI), is proceeding with research on a new high-efficiency aircraft propulsion system for future development of a high-speed turboprop aircraft.

The three-year research program, started in FY 1980, is aimed at working out design technology for an advanced technology propeller, a reduction gear and a variable pitch structure. The Aircraft and Machinery Industry Council, an advisory body to MITI, in its report in August 1979 recommended that the government promote basic research and development of a low-noise, fuel-efficient propulsion system for subsonic aircraft.

Research on the advanced technology propeller includes analysis of low- and high-speed aerodynamic characteristics, and preparation of a conceptual design.

Reduction gear research includes design and fabrication of power circulation gears, performance evaluation, light-weight and rigid materials, and lubrication methods.

For research on the variable pitch structure, a basic mockup structure is being designed and fabricated. Testing equipment for the mockup will also be designed.

CSO: 4120/96

TR&DI TO START XF-3-30 TESTS IN LATE NOVEMBER

Tokyo JPE AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 pp 7-8

[Text]

The Japanese Defense Agency's Technical R&D Institute (TR&DI) will start pre-flight rating tests (PFRT) of the first XF-3-30 small turbofan engine in late November. The engine was delivered by Ishikawajima-Harima Heavy Industries Co. (IHI) in late October.

The TR&DI has ordered five XF-3-30 development engines for PFRT aimed at confirming the feasibility of mounting the engine on aircraft for flight tests. The XF-3 engine is in development for possible use for the ASDF's new MT-X intermediate trainer aircraft.

The first XF-3-30 will undergo bench running tests. The bench run is required to last for 60 hours. Initially, the engine will repeat six-hour runs. A final 60-hour consecutive run will be carried out by the middle of FY 1983. The XF-3-20, a predecessor of the XF-3-30, has already cleared a 30-hour consecutive run. Prior to the 60-hour running test of the XF-3-30, the TR&DI plans to conduct a 60-hour consecutive running test of the XF-3-20 in the first half of FY 1982.

The second XF-3-30, to be delivered in late November, will be used for overload and overheat tests as well as bench run tests.

The third one will be delivered in January 1982 for distortion tests. Ice will be put into the engine in the final stage of such tests.

The fourth XF-3-30 will be handed to the TR&DI in late April 1982 for airborne tests on a C-1 flying test bed which the TR&DI will receive in mid-January. This engine will be flight tested aboard the aircraft, starting in June.

The fifth one will be delivered in late June 1982 for tests at a U.S. Air Force facility expected to begin in August.

SCIENCE AND TECHNOLOGY

MELCO TO BE GIVEN THREE R&D CONTRACTS

Tokyo JPE AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 pp 8-9

[Text]

The Central Procurement Office of the Japanese Defense Agency has decided to award Mitsubishi Electric Corp. (MELCO) contracts for research and development of a radio jamming system for surface ships, an ECM (electronic countermeasure) system named the XJ/ALQ-8 and a future fire control system (FCS) as funded under the FY 1981 budget.

It will sign contracts with MELCO for the XJ/ALQ-8 and the FCS by January and the other for the jamming system by March or the end of FY 1981.

The radio jamming system, requested by the Maritime Self-Defense Force, will be used by surface ships for detecting, identifying and jamming radio waves from enemy guided weapons. The TR&DI has fabricated the detection and identification components under the FY 1979 funding totaling ¥979 million. The FY 1981 funding worth ¥1,260 million is for fabrication of the jamming component to complete a full system. The jamming systems will be installed mainly on destroyers.

The XJ/ALQ-8 ECM system, requested by the Air Self-Defense Force, will be mounted on the F-15J fighter-interceptor to jam radio equipment of enemy fire control systems, air-to-air missiles and other guided weapons. Fabrication of the antenna unit was launched in FY 1980. The FY 1981 funding, totaling ¥464 million, calls for fabrication of the transmission and modulation units and modification of an F-15J. The system's tests aboard the F-15J will start in late FY 1982.

The FCS program is to start in the current fiscal year with an earmarked ¥168 million. It envisages fabrication of only the antenna unit by FY 1983 to collect technical data prior to full-scale development in future. The FCS, using active phased array and pulse Doppler technologies, is designed for aircraft, including a control-configured vehicle now under development, to deal simultaneously with multiple low-altitude, high-speed intruding aircraft.

SCIENCE AND TECHNOLOGY

JDA TO SIGN TWO R&D CONTRACTS WITH NEC

Tokyo JPE AVIATION REPORT-WEEKLY in English No 549, 2 Dec 81 p 9

[Text]

The Japanese Defense Agency will sign two contracts with Nippon Electric Co. (NEC) by the end of December for development of a medium-range battlefield surveillance radar and an electronic switching system for the Ground Self-Defense Force (GSDF).

The battlefield surveillance radars will be deployed to GSDF scout and reconnaissance units as replacements for the current Model 71 ground radars to maintain surveillance on moving targets within a range of about 20 kilometers. The new radars will be mounted on vehicles to increase mobility. The radar development program is to start in the current fiscal year with ¥267 million. Technical tests are scheduled for FY 1982 and operational tests for FY 1983. The new radar will also be used as a surveillance radar for the XSSM-1 ground-launched antiship missile now under development.

The electronic switching systems will be used by signal units of each regional army to mediate an integrated communication facility for central command, regional armies and divisions. The electronic switching system development program, launched in FY 1980, calls for fabrication of three test sets by FY 1982. The government has earmarked ¥889 million in FY 1980 for two sets and ¥360 million in FY 1981 for the remaining one.

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SCIENCE AND TECHNOLOGY

DELAY POSSIBLE IN JAPAN'S DECISION ON Y-XX PARTNER

Tokyo JPE AVIATION REPORT-WEEKLY in English No 550, 9 Dec 81 pp 3-4

[Text]

The Japanese aircraft industry may delay its decision on a foreign partner for development and production of the Y-XX 150-seat commercial transport beyond the turn of the year.

Iwao Shibuya, chairman of the special committee on the Y-XX, Society of Japanese Aerospace Companies (SJAC), said in late November he was uncertain about whether the industry would make the decision by the end of the year as originally planned. The committee was considering how to proceed with selection of the foreign partner, he said.

Shibuya, Managing Director of Fuji Heavy Industries Ltd. (FHI), made the remark after he and other Japanese industry leaders visited the United States for talks with Boeing Co. and the McDonnell Douglas/Fokker consortium, candidates for the partnership, on details of their proposals for the Y-XX project.

The industry's original plan was intended to unify views on the partnership after talks with the two candidates; coordinate views with the Ministry of International Trade and Industry; make the final decision on the selection; and conclude a memorandum of understanding with the nominated partner within this year.

The remarks by Shibuya and others concerned indicate that the industry may not be able to proceed with that original schedule because of new problems stemming from the talks in the United States.

The Shibuya-led mission conferred with President R.W. Welch of the Boeing Commercial Airplane Co. in Seattle Nov. 16-17, and President Sanford N. McDonnell of McDonnell Douglas with Chairman F. Swarttouw of Fokker in Long Beach Nov. 18-19. Boeing has proposed the 7-7 and the McDonnell Douglas/Fokker consortium the MDF-100 for Japan's Y-XX program.

Other Japanese mission members included Kenji Ikeda, Managing Director of Mitsubishi Heavy Industries Ltd. (MHI); Teruaki Yamada, Managing Director of Kawasaki Heavy Industries Ltd. (KHI); Kenji Uchino, Vice Chairman of the Civil Transport Development Corp. (CTDC); Niichiro Ishida, Special Assistant to the CTDC Chairman; Hirokatsu Isshiki, Chief Officer at MHI's Aircraft & Special Vehicle Headquarters; Shigeo Kozuka, Director at KHI's Aircraft Group; and Koichiro Shinmen, Chief of the FHI Aircraft Division Director's Office.

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SCIENCE AND TECHNOLOGY

IHI COMPLETES HELICOPTER SYSTEM OVERHAUL FACILITY

Tokyo JPE AVIATION REPORT-WEEKLY in English No 550, 9 Dec 81 pp 5-6

[Text]

Ishikawajima-Harima Heavy Industries Co. (IHI) has completed a hydraulic equipment adjusting facility at its aerospace works in Tanashi, western Tokyo, for overhauling helicopter hangars and helicopter ship recovery systems manufactured by Canada's DAF Indal Ltd. and carried aboard DDH helicopter-mounted destroyers of the Maritime Self-Defense Force (MSDF).

IHI contracted with DAF Indal in September 1980 to introduce technology for overhauling the systems to handle regular checks of the increasing number of DDH destroyers. The systems were imported from the Canadian firm through Mitsubishi Corp.

The just-completed overhauling facility was displayed to MSDF and Defense Agency officials on Nov. 25.

The facility, equipped with a simulated load test device and a hydraulic test stand as well as other overhaul machinery, will be first used for overhauling the system aboard the 4,700-ton DDH Haruna starting in mid-December. In January, after overhauling and adjustment tests, the system will be mounted again on the Haruna, which is now under overhaul at Mitsubishi Heavy Industries Ltd.'s Nagasaki Shipyard in western Japan.

IHI hopes to undertake license production as well as systems overhaul in future.

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SCIENCE AND TECHNOLOGY

COMPETITION EXPECTED FOR JDA COMMAND SYSTEM ORDERS

Tokyo JPE AVIATION REPORT-WEEKLY in English No 550, 9 Dec 81 pp 7-8

[Text]

Communications equipment manufacturers are expected to go into keen competition quite soon to secure JDA orders for computers, electronic switching devices, display panels and other equipment for installation at the JDA central command system now under construction.

JDA has sought ¥3,500 million in its FY 1982 budget request for purchase of such equipment. Additional funds will be requested in FY 1983.

Manufacturers have a great interest in the orders, estimated at ¥6,000 million, because the central command system will be linked to the Air Self-Defense Force's (ASDF) new BADGE air defense system, for which proposals are now being prepared by Nippon Electric Co., Fjitsu Ltd. and Hitachi Ltd. The new BADGE contractor will be selected from those three companies.

The construction of a building to house the central command system started earlier this year at the JDA facility located in central Tokyo. Construction funds totaling ¥4,000 million will be disbursed under the FY 1981 and 1982 budgets. Thus, the system construction, including purchase of communications equipment, will cost ¥10,000 million.

The central command system will become operational in September 1983 to collect data through the ASDF BADGE system, the Ground Self-Defense Force's microwave communications system and the Maritime Self-Defense Force's fleet command and support system for unified efficient command of the three services.

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SCIENCE AND TECHNOLOGY

JDA TO APPROVE APR-4 SYSTEM USE FOR F-15J

Tokyo JPE AVIATION REPORT-WEEKLY in English No 550, 9 Dec 81 p 8

[Text]

The JDA Equipment Council has recommended the State Minister for Defense (JDA Director-General) to approve use, for the ASDF F-15J fighter-interceptor, of the APR-4 radar warning system developed by the TR&DI.

Following the recommendation in late November, the ASDF was to apply for the minister's approval of deployment of APR-4-mounted F-15Js. The approval is expected to come around Dec. 10, paving the way for the ASDF to inaugurate an ad hoc F-15J squadron in the third week of December.

Two F-15Js, delivered by McDonnell Douglas Corp. last March, were flight tested about 100 times by the ASDF Air Proving Wing between May and Nov. 10 with the APR-4s mounted.

Before the inauguration of the ad hoc squadron, the first license-production F-15J will be delivered by Mitsubishi Heavy Industries Ltd. on Dec. 11. At about the same time, four two-seater F-15DJ trainers will be ferried to Japan from the United States.

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SCIENCE AND TECHNOLOGY

MHI TO FABRICATE PROTOTYPE PRECISION GUIDED SIMULATOR

Tokyo JPE AVIATION REPORT-WEEKLY in English No 550, 9 Dec 81 pp 8-9

[Text]

The JDA Central Procurement Office has decided to award Mitsubishi Heavy Industries Ltd. (MHI) a contract for fabrication of a precision guidance simulator for evaluation of optical missiles under the FY 1981 budget.

It has also nominated Mitsubishi Electric Corp. to fabricate an affiliate system for physical simulation.

Contracts will be signed in the fourth quarter of FY 1981 ending next March.

The TR&DI has earmarked ¥790 million in the FY 1981 budget for import of a missile performance computing system and an X-ray photographing system for the simulator, as well as fabrication of a shock-gun system by MHI. Basic components for the simulator were fabricated in FY 1980.

FY 1981 funding for fabrication of the affiliate physical simulation system totals ¥260 million.

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SCIENCE AND TECHNOLOGY

TR&DI TO TEST XF-3 ENGINES AT USAF FACILITY IN FY 1982

Tokyo JPE AVIATION REPORT-WEEKLY in English No 550, 9 Dec 81 p 9

[Text]

The JDA Technical R&D Institute (TR&DI) plans to conduct high-altitude performance tests of two XF-3-30 small turbofan development engines at the Arnold Engine Development Center (AEDC) of the U.S. Air Force's Arnold Base in Tennessee in FY 1982.

TR&DI has earmarked ¥1,200 million for the tests along with ¥7,358 million for development of the MT-X new intermediate trainer for the ASDF in its FY 1982 budget request. It hopes to have the XF-3-30 engine adopted for the MT-X.

The two engines for the tests in the United States are the second and fifth of five XF-3-30s ordered from IHI in FY 1980 for a wide range of pre-flight rating tests. Four more XF-3-30s are supposed to be ordered in the current fiscal year.

The JDA will conclude a Foreign Military Sales (FMS) contract with the U.S. Air Force to carry out the high-altitude tests at the AEDC. Japan has no facility for such tests. The FJR fanjet engine, in development by the Agency of Industrial Science & Technology, has undergone similar tests in Britain.

The two XF-3-30 engines will be transferred to the AEDC between June and July 1982 for the first-phase tests in July-September. They will be overhauled in Japan after the first-phase tests and transferred again to the United States in late December for the second-phase tests in January-March 1983.

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SCIENCE AND TECHNOLOGY

TR&DI PLANS TO DEVELOP TARGET DRONE IN FY 1982-1986

Tokyo JPE AVIATION REPORT-WEEKLY in English No 550, 9 Dec 81 pp 9-10

[Text]

The JDA Technical R&D Institute plans to develop a target drone for missile firing exercises at the request of the ASDF over the next five years, starting in FY 1982. TR&DI has already sought ¥137 million for fabrication of a jet engine for the drone in its FY 1982 budget request. If the fund is approved, TR&DI intends to request ¥1,530 million in FY 1983 for fabrication of the airframe.

The ASDF wants to order as many as 100 of the new target drones over a five-year period starting in FY 1986 if TR&DI develops the drone on schedule.

The service intends to use the drones for missile-fire training aboard F-15J and F-4EJ fighter-interceptors. The new drone will be disposable and cheaper than the ¥30 to 40 million Chukar II which Nippon Electric Co. is to produce for the Ground and Maritime Self-Defense Forces under Northrop license. It would also feature pre-programmed flights of 15 to 20 minutes. Maximum speed is planned at Mach 0.9 at an altitude of 30,000 feet.

The TR&DI intends to fabricate the 300-to-400-kilogram-thrust jet engine in FY 1982 and the airframe from FY 1983 to 1985, and will conduct technical and operational tests from late FY 1984 to FY 1986.

Either Mitsubishi Heavy Industries Ltd. or Kawasaki Heavy Industries Ltd. would undertake the jet engine development. For the airframe development, Kawasaki and Fuji heavy industrial firms are expected to compete.

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